FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherance to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals including the use of industrial standards for industrial hazards.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

122. Other personnel hazards - ice/walking surfaces
127. Other personnel hazards - slips, trips & falls
131. Other personnel hazards - work on wet surface

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1910.22
29 CFR 1926.25
29 CFR 1910.21
29 CFR 1910.23-30

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherance to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals including the use of industrial standards for industrial hazards.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

123. Other personal hazards - lifting and carrying heavy objects

Focus group

☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☒ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

Fermilab ES&H Manual Chapter 5084, Ergonomic Protection, was prepared as a consequence of the N&S standards process. It formalizes the ongoing program of medical reviews, training, and work practice evaluations associated with this issue.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherance to the internal standard in #11 has resulted in levels of ES&H and cost performance that are consistent with management goals.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

The internal standards identified in #11 have proven to be both successful and cost-effective. When it is approved in the N&S process, internal implementation programs may be modified to be compatible with this standard.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☐ Hazard analysis ☒ Identification Team

1. Issue(s)

124. Other mechanical hazards - pinch points

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety ☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1910 Subpart O
29 CFR 1910 Subpart P

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherance to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals including the use of industrial standards for industrial hazards. The associated program includes proper guarding and clearences.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Adherence to machine guarding requirements has been well addressed at the Laboratory. Through an on-going process for verification all machines have been inspected, and guarded. Machines built and purchased prior to the current legal requirements had guards designed and affixed. Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

125. Other personal hazards - repetitive motion

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

ANSI Z365 (draft)

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☒ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

Fermilab ES&H Manual Chapter 5084, Ergonomic Protection, was prepared as a consequence of the N&S standards process. This standard is based on successful and cost-effective internal past practices (rather than the draft ANSI standard cited in #8).

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherance to the practices in #11 has resulted in levels of ES&H and cost performance that are consistent with management goals.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Experience has demonstrated that this program is both successful and cost-effective. When the standard in #11 is approved in the N&S process, internal implementation programs may be modified to be compatible with this standard.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

129. Other personnel hazards - vacuum tanks

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety ☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☐ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☐ YES ☒ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☒ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☒ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

Fermilab ES&H Manual chapter 5033, Vacuum Vessel Safety, and a number of Fermilab Technical Memos have been written and in force for several years. These were written to specifically address the vacuum hazards at Fermilab and to minimize the potential risks.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherance to the internal standard in #11 has resulted in levels of ES&H and cost performance that are consistent with management goals.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

The internal standards identified in #11 have proven to be both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

130. Other personal hazards - vibration

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety ☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

ACGIH TLV for hand-arm segmental vibration

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Although there have been no recognized cases of vibration-related illness at Fermilab, exposures to vibrating equipment are fairly commonplace. The ACGIH TLV was selected because it serves as the generally-recognized consensus standard for industrial hygiene hazards which do not have a statutory requirement. This meets the management performance goal to use industrial standards for industrial hazards.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

In the opinion of the Fermilab subject-matter experts, compliance with the ACGIH TLV for vibration will prove to be both successful and cost-effective. The limits will be applied as guides in accordance with the cited standard. When this standard is approved in the N&S process, appropriate internal programs will be developed and implemented.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

132. Other personnel hazards - working at heights

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety ☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1926.104
29 CFR 1926.500-503
29 CFR 1910 Subpart D
29 CFR 1910.252(b)(1)(i)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherance to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals including the use of industrial standards for industrial hazards.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

133. Radiation - radioactive contamination
138. Radiation - radioactivated soil
141A. Radiation - residual contamination

Focus group ☐ Emergency Management ☐ Fire Protection ☐ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☒ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

10 CFR 835.603
10 CFR 835.404
10 CFR 835.1101
10 CFR 835 Appendix D

4. Are there any aspects of these necessary standard(s) which do not add value? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

The documentation requirements of 10 CFR 835.1101.(d) do not add value because they require excessive documentation of individual items released from Contamination Areas with commensurate requirements for training and recordkeeping. In addition they result in the collection of the documentation in an unusable format. Other measures, implemented with site-specific flexibility, can achieve a sufficient level of control in a more cost-effective manner. A request for an exemption from Subpart 10 CFR 835.1101(d) should be submitted to allow for a more reasonable, cost-effective documentation procedure.

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

With the exemption as discussed above, implementation of the regulatory requirements provides a necessary and sufficient level of control of radioactive contamination in a manner consistent with general industry practice. The level of risk is consistent with management performance goals because management expects to use industrial solutions for industrial issues. This is an industrial issue and the solution chosen is an industrial solution.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☒ Minor positive impact ☐ Major negative impact
☐ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Program implementation is in progress by means of the policies of the Fermilab Radiological Control Manual. The cost-effectiveness would be improved if the exemption request described concerning 10 CFR 835.1101 is approved. When the above standard is approved in the N&S process, internal implementation programs may be modified to be compatible with this standard.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☒ Identification Team

1. Issue(s)

134 /142. Radiation - special nuclear materials (SNM) and nuclear materials

Focus group

☐ Emergency Management ☐ Fire Protection ☐ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☒ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

Atomic Energy Act

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☐ YES ☒ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☒ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☒ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☒ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

Fermilab ES&H Section Specific Quality Implementation Plan (SQIP) RPS.8 constitutes an internal standard on nuclear material and special nuclear material based on DOE Orders 5633.3B, 5634.1B, 5632.1C, and 5660.1B.

12. Describe how the levels of risk and cost are consistent with management performance goals.

SQIP RPS.8 provides requirements mostly equivalent to those required by the NRC as applied to general industry. Thus the level of risk is consistent with management performance goals because mananagement expects to use industrial solutions for industrial issues and the level of cost and risk in this internal standard is consistent with that of industries under the NRC.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Fermilab has implemented successful and cost-effective programs to assure acceptable performance in the area of nuclear and special nuclear materials.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

135. Radiation - mixed waste
140. Radiation - radioactive waste

Focus group

☐ Emergency Management ☐ Fire Protection ☐ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☒ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

WHC-EP-0063 Rev (or equivalent that might receive FNAL wastes)
40 CFR 260-270
35 IAC 700-730 (also see hazardous waste regs.)

4. Are there any aspects of these necessary standard(s) which do not add value? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

The State of Washington categorizes many forms of waste as mixed waste inconsistent with the Resource Conservation and Recovery Act (RCRA). This increases the cost significantly. Correction of this, however, would require revision of the State of Washington Administrative Code (WAC).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

The level of risk is consistent with performance goals except for the comment noted regarding the problems posed by provisions of the WAC. The level of risk is consistent with management performance goals because management expects to use industrial solutions for industrial issues. This is an industrial issue and the solution chosen is an industrial solution.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

The program is implemented by means of the Fermilab ES&H Manual Chapter 8020 and 8021, the Fermilab Radiological Control Manual, and the Fermilab Low Level Waste Certification Plan.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

136. Radiation - prompt radiation

Focus group ☐ Emergency Management ☐ Fire Protection ☐ Occupational Safety ☐ Environmental Protection ☐ Management & Oversight ☒ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

10 CFR 835.501-502
10 CFR 835.601-603

4. Are there any aspects of these necessary standard(s) which do not add value? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

10 CFR 835.603(c) specifies the lower threshold of a "Very High Radiation Area" to be 500 rads/hr. This threshold adds no value in controlling worker dose equivalent. It is too high, well above lethal or near-lethal levels. A request for an exemption lowering this threshold to some more workable operational value, perhaps 50 rads/hr, should be submitted. The requirement in 835.601(c) to use only DOE-approved signs adds no value when compared with commercially standard signs produced for , e.g., NRC licensees. Furthermore, because such signs have to be special-ordered, the costs are increased.

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

With the approval of the exemptions discussed above, the level of risk remaining upon implementation of the regulatory requirement is consistent with and sufficient to meet management goals. (Also see issue "Safety Analysis Documentation" as it is related to prompt radiation issues.) The level of risk is consistent with management performance goals because management expects to use industrial solutions for industrial issues. This is an industrial issue in that the regulations cited are essentially equivalent to the requirements imposed on general industry.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

This program is already implemented through Laboratory policies in the Fermilab Radiological Control Manual that also reflect various guidance documents developed by the accelerator radiation protection community including SLAC-327 "Health Physics Manual of Good Practices for Accelerator Facilities" and DOE Order 5480.25 and its guidance.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☒ Identification Team

1. Issue(s)

137. Radiation - radioactive sources

Focus group

☐ Emergency Management ☐ Fire Protection ☐ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☒ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☐ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☐ YES ☒ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☒ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☒ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☒ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

Fermilab Radiological Control Manual Articles (FRCM) 365 and FRCM Chapter 4 Part 3 constitute an internal standard. These Fermilab policies are based on and are consistent with DOE N5400.9.

12. Describe how the levels of risk and cost are consistent with management performance goals.

The internal standard adequately protects against loss, damage, or unauthorized exposure due to radioactive sources. Such a standard is needed to assure proper usage and control of radioactive sources in a research environment where large numbers of such sources are used in a variety of ways as part of the physics research program.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

The program has already been implemented by means of the cited portions of the Fermilab Radiological Control Manual. When the above standard is approved in the N&S process, internal implementation programs may be modified to be compatible with this standard.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

139. Radiation - radioactive liquids and gases

Focus group ☐ Emergency Management ☐ Fire Protection ☐ Occupational Safety ☐ Environmental Protection ☐ Management & Oversight ☒ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

10 CFR 835.209
10 CFR 835.603
10 CFR 835.1101
10 CFR 835 Appendices A- C

4. Are there any aspects of these necessary standard(s) which do not add value? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

See comment cited with respect to # 133.

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☐ YES ☒ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☒ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☒ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☒ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

Fermilab Radiological Control Manual Article 349 contains procedures needed to control radioactive liquids and gases in accelerator components. This constitutes an internal standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

The regulation and the internal standard will adequately address the identified issue. The level of risk is consistent with management performance goals because management expects to use industrial solutions for industrial issues. This is an industrial issue and the solution chosen is an industrial solution.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

The program is presently implemented as set forth in the Fermilab Radiological Control Manual. When the above standard is approved in the N&S process, internal implementation programs may be modified to be compatible with this standard.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

141B. Radiation - residual activity
143. Radiation - storage and handling of radioactive materials

Focus group

☐ Emergency Management ☐ Fire Protection ☐ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☒ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

10 CFR 835.601-603
10 CFR 835.501-502
10 CFR 835 Appendix B
10 CFR 835 Appendix C

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☐ YES ☒ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☒ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☒ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☒ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

Fermilab Radiological Control Manual Article 411.
DOE has approved Fermilab criteria for the release of material which is determined to be nonradioactive. These criteria are needed to augment the cited regulatory requirements which do not embody such release criteria. It is presently incorporated into Article 411 of the Fermilab Radiological Control Manual and thus exists as an internal standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

The standards cited above, including the internal standard, provide a necessary and sufficient level of control of radioactive materials. Specifically, a net gain in cost-effectiveness is gained if the concept of the Radioactive Materials Management Area (RMMA), nowhere defined in regulations, is eliminated. At Fermilab RMMAs are redundant with other types of radiological areas defined by 10 CFR 835. The corresponding Fermilab policies on RMMAs add no value and their elimination will improve cost-effectiveness and simplify the radiological control program.

13. Pick the basic implementing assumption from the list.

☒ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☐ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

The program to implement these standards is presently in place as expressed in the Fermilab Radiological Control Manual. A major improvement in cost-effectiveness can be realized by implementing the actions specified in 12. When the above standard is approved in the N&S process, internal implementation programs may be modified to be compatible with this standard.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

144. Thermal - battery bank and UPS equipment

Focus group

☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1910.178(g)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherance to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals including the use of industrial standards for industrial hazards. The associated program includes proper segregation, clearences, and training.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Segregated work areas for battery storage have been addressed at the Laboratory. Battery changing hazards is infrequent but through supervisory training well addressed. Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

145. Thermal - cold work environments

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety ☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

ACGIH TLV for cold stress

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherance to the standard in #8 has resulted in levels of ES&H and cost performance that are consistent with management goals inlcuding the use of industrial standards for industrial issues. Although there have been few recognized cases of cold injury at Fermilab, winter exposures to are fairly commonplace. The ACGIH TLV was selected because it serves as the generally-recognized consensus standard for industrial hygiene hazards which do not have a statutory requirement.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Past application of the ACGIH TLV for cold stress has proven to be both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

146. Thermal - cryogens

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety ☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☐ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☐ YES ☒ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☒ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☒ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

Fermilab ES&H Manual chapters 5032 and 5032.1, Cryogenic System Review and Liquid Nitrogen Dewar Installation, respectively , are written and have been in force for several years. It was developed to specifically address the cryogenic hazards at Fermilab and to minimize the potential risks.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherance to the internal standard in #11 has resulted in levels of ES&H and cost performance that are consistent with management goals. There have been very few, if any, injuries or illnesses stemming from activities falling under the scope of Fermilab's cryogenic system review program since its initiation.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

The internal standards identified in #11 have proven to be both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

147. Thermal - high temperature equipment

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety ☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1910.107(c)(3)
29 CFR 1910.303(b)(1)(iv)
29 CFR 1910.305(j)(4)(iii)
29 CFR 1910.307
29 CFR 1910.335(a)(2)(ii)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherance to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals inlcuding the use of industrial standards for industrial issues. The associated program includes proper covering, clearences, and training.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

High temperature equipment exists periodically and well address through segegration, clearance and equiping appropriate pesonnel with the proper person protective equipment and training. Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

148. Thermal - hot work environments

Focus group

☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

ACGIH TLV for heat stress

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherance to the standard in #8 has resulted in levels of ES&H and cost performance that are consistent with management goals inlcuding the use of industrial standards for industrial issues.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Past application of the ACGIH TLV for heat stress has proven to be both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☒ Identification Team

1. Issue(s)

152. Emergency preparedness - severe weather
029. Construction - high winds

Focus group

☒ Emergency Management ☐ Fire Protection ☐ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☐ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☐ YES ☒ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☒ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☒ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

Fermilab Emergency Plan Sections 35A, 35B, and 41.
1.) Personnel Warning - Severe weather -- Fermilab Emergency Plan, 9/92, Section 35A
2.) Shelters - Severe weather -- Fermilab Emergency Plan, 9/92, Section 35B
3.) Warning Signals - Severe weather -- Fermilab Emergency Plan, 9/92, Section 41

12. Describe how the levels of risk and cost are consistent with management performance goals.

Fermilab's policy to ensure a safe environment for workers includes risk reduction of the hazards associated with severe weather. For Fermilab's geographic location the primary severe weather hazards are tornados, high winds, lightning, hail, and winter storms. Although the chances for tornado - the most severe hazard - occuring on site are real, the actual pobability is low; there has never been a tornado on site, though there were 10 tornados reported in the Fermilab area of Illinois in the 10 year period 1976 and 1985.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

It is a common best business practice fo prepare for weather related emergencies that may affect peronnel. Fermilab has provided outside tornado warning devices (sirens) which are being enhanced by a sitewide emergency warning system (SEWS) which functions inside facilities throughout the site where personnel are assembled when a tornado is imminent. The present program will continue to be implemented, upon approval of the proposed N&S internal standard. It is documented in the Fermilab Emergency Plan.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☐ Hazard analysis ☒ Identification Team

1. Issue(s)

153. Emergency preparedness - safeguards and security

Focus group ☒ Emergency Management ☐ Fire Protection ☐ Occupational Safety ☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

10 CFR 860 (Trespass to land owned & leased by the U.S. government.)
18 U.S. Code Sections 841-848 (Use, or threat of use, of explosives; includes civil disorders.)
10 CFR 1046 Subpt. B, App A, Chpt X, Paragraphs H through I inclusive.
Illinois Compiled Statutes (ICS) Chapter 625 (State vehicle code)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Adherence to the cited legal requirements is sufficient in achieving a low level of risk that is consistent with management performance goals. The level of risk is consistent with management performance goals because management expects to use industrial solutions for industrial issues. This is an industrial issue and the solution chosen is an industrial solution.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

No changes are anticipated in the emergency preparedness/response aspects of the safeguards and security program as presently implemented at Fermilab; this includes the following elements: the Site Security Plan; the (annual) Risk Assessments; the Fermilab Security Procedures; and employee identification badging. When the above standard is approved in the N&S process, internal implementation programs may be modified to be compatible with this standard.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☐ Hazard analysis ☒ Identification Team

1. Issue(s)

154. Emergency preparedness - generic

Focus group ☒ Emergency Management ☐ Fire Protection ☐ Occupational Safety ☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1910.38 Employee emergency plans and fire prevention plans.
40 CFR 300.150 (EPA)
40 CFR 311.1 Worker Protection
E.O. 12356 of Aug. 1, 1982.
Title 5 U.S.Code 4103.
28 CFR 36 Sections 4.1.3 (9) and 302(b)(2).

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☐ YES ☒ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

NFPA 1561, Standard of Fire Dept. Incident Management System

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Adherence to the cited legal requirements and external standards is sufficient in achieving a low level of risk that is consistent with management performance goals. Adoption of NFPA 1561 is triggered by the Fermilab management's choice to utilize an in-house Fire Dept. The level of risk is consistent with management performance goals because management expects to use industrial solutions for industrial issues. This is an industrial issue and the solution chosen is an industrial solution.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Fermilab's present extensive emergency management system includes hazard assessment, planning, preparedness, and response; an Incident Command System. It is documented in the Fermilab Emergency Plan. When the above standard is approved in the N&S process, internal implementation programs may be modified to be compatible with this standard.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☐ Hazard analysis ☒ Identification Team

1. Issue(s)

155. Env - underground storage tanks

Focus group

☐ Emergency Management	☐ Fire Protection	☐ Occupational Safety
☒ Environmental Protection	☐ Management & Oversight	☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

RCRA, 42 USC 6901 et seq.
40 CFR 280
35 IAC 731 - 732
35 IAC 170
35 IAC 170 Subpart A

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Continuation of the current program will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals because management expects to use industrial solutions for industrial issues. This is an industrial issue and the solution chosen is an industrial solution.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

The statutory requirements identified in #3 have proven to be both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☐ Hazard analysis ☒ Identification Team

1. Issue(s)

156. Other mechanical hazards - aviation

Focus group
☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

14 CFR 91 (General operating and flight rules)
SFAR 62 (Suspension of certain aircraft operations from the transponder...)
14 CFR 830 (Notification and reporting...accidents and incidents...)
14 CFR 135 (Air taxi operators and commercial operators)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals? ☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherance to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals inlcuding the use of industrial standards for industrial issues. Given the low frequency of rental aircraft service usage (~few days per year) and small number of employees involved (~one per flight), it is reasonable for Fermilab to accept the cumulative level of risk associated with "industrial standards" (i.e., FAA compliance). (SFAR = Special Federal Aviation Regulations)

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☒ Minor positive impact ☐ Major negative impact
☐ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Reliance on FAA requirements would greatly simplify the process for securing aircraft services. This would result in a non-negligible time savings for all personnel involved in the procurement and approval process. Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☐ Hazard analysis ☒ Identification Team

1. Issue(s)

159. Emergency preparedness - hazardous materials

Focus group
☒ Emergency Management ☐ Fire Protection ☐ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1910.120 (q)(2) Elements of an Emergency Response Plan
Illinois Chemical Safety Act (as ammended by P.A. 85-1325, effective August 31, 1988)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.